REMARKS

Further consideration of this application is solicited. Claims 5-14 are pending herein. The FINAL Office Action of August 12, 2008, has been carefully considered. Applicants wish to thank the Examiner for granting a brief telephonic interview on August 21, 2008, regarding claims 5-14 which have been rejected under 35 USC 112, first paragraph. By this Amendment, claims 5 and 8 have been amended to further distinguish over Gatt as further described below, both structurally and functionally, and to utilize claim terminology which is consistent with the specification and original claims as filed. For example, claim 5 has been amended to incorporate the limitations of claims 6 and 7 (and claims 6 and 7 are hereby cancelled). Moreover, claim 10 has been amended as supported by paragraph [0031] of the present published application US 2007/0095288. Claim 15 has been added to recite "the processing container has a container-cooling unit provided therein having a spirally provided coolant passage in which a coolant flows." Claim 16 has been added to recite details of a recited porous member of claim 8. Applicants will reference the published application herein for the mutual benefit of the Examiner and Applicants for referring to passages relied upon for support. First, the Claim Rejections related to 35 USC 112 will be discussed, followed by a discussion of the claim rejections based on 35 USC 103(a).

Claim Rejections – 35 USC 112

The Examiner states: "Applicant has amended independent claims 5 and 8 to recite that the plurality of blowing holes is formed at suitable intervals in the vertical direction of the cooling gas introducing pipe 'for blowing a slewing flow of the cooling gas circumferentially about the circular space,' although this limitation constitutes functional language it does not find support in the specification as originally filed" (our emphasis added). Applicants appreciate having the opportunity to speak with the Examiner on August 21 about the rejection. Applicants have carefully amended claims 5 and 8 to reflect language used in the specification as originally filed as now explained. Firstly, "suitable" has been deleted from the complained-of claims, notwithstanding support at paragraph [0038] as follows: "The plurality of blowing-out holes 26

having a diameter of about 5 mm is formed at suitable intervals in a longitudinal direction at the pipe wall of the cooling-gas introducing pipe 28, in order to blow out the cooling gas in a tangential direction of the circular space 21." Moreover, as supported by [0038] "the vertical direction" has been replaced with "a longitudinal direction" to conform the claim language to the specification. Also, "circumferentially about" has been replaced with "in a tangential direction of" for conformity with the specification.

Claim 8 has been amended to recite "vertically along a side wall of the processing container" as supported by paragraph [0038]: "The cooling-gas introducing pipe 28 stands up along the side wall of the processing container 2 vertically."

The Examiner is invited to contact the undersigned in the event there remain any questions as to support in the present specification for claim language.

Claim Rejections – 35 USC 103

Claims 5-14 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Gat (6,727,474) in view of Kato (6,403,927). Applicants incorporate by reference all arguments made in support of independent claims 5 and 8 made in previous responses to Office Actions and, moreover, adds remarks with respect to claims 5 and 8 as presently amended.

The Examiner continues to reject claim 5 on the grounds that Gat shows each and every element of claim 5 as amended. The Examiner states: "To modify the spray nozzle of Gat, such that the holes are oriented to induce a tangential or circumferential flow would solve the design need of rapidly and more uniformly cooling an object, the fact that it would have been obvious to try any number of nozzle orientations to achieve this desired result might show that a person having ordinary skill in the art would have found it obvious under 35 U.S.C. 103 (KSR v. Teleflex) to modify the gas nozzles of Gat such that gas flow is dispersed tangentially out of the pipe. Applicants reply that KSR does not stand for the proposition of "obvious to try." Moreover, Gat does not recognize the problem solved by Applicants of preventing particles from reaching wafers w or local cooling of wafers w.

Moroever, with regard to claims 6, 8, 9 and 11-14, the Examiner states: "It would have been obvious to one of ordinary skill in the art at the time the invention was made to increase the amount of cooling-gas introducing pipes since increasing the amount of essential working parts does not appear to solve any stated problem in a new or unexpected way or is for any particular purpose which would be unobvious to one of ordinary skill in the art." Applicants respectfully traverse.

Gat is again quoted at column 5, lines 44 to 57 as follows: "Conduit 16 is adapted to circulate a cooling fluid, such as water, which is used to maintain the walls of chamber 12 at constant temperature.

Chamber 12 can also include a gas inlet 18 and a gas outlet 20 for introducing a gas into the chamber and/or for maintaining the chamber within a preset pressure range. As shown, in this embodiment, gas inlet 18 includes a spray nozzle 19 defining a plurality of openings. Spray nozzle 19 is for evenly distributing the gas across the surface of the wafers. In one embodiment, a gas can be introduced into chamber 12 through gas inlet 18 for reaction with wafers 14. Once processed, the gas can then be evacuated from the chamber using gas outlet 20."

It is respectfully submitted that the Examiner is using impermissible hindsight to assume that the gas is for cooling and, moreover, that Gatt recognizes the problems that Applicants describe at paragraph [0038]: "When the cooling gas is blown out in the tangential direction in order not to directly come into contact with the wafers w, local cooling of the wafers w and scattering of particles can be prevented. In addition, when the cooling gas is blown out in the tangential direction, a slewing flow of the cooling gas may be generated in the processing chamber 2. Thus, the wafers w can be cooled more effectively, uniformly within a surface and uniformly between surfaces." Consequently, it is respectfully submitted that the problem and solution do not follow from Gatt or the conclusion that the Examiner reaches that Gatt taken further would provide additional pipes.

The Examiner is silent about claim 7 where a further feature of claim 5 as amended is "having different lengths in the height direction" is not discussed by Gat or Kato.

Consequently, Applicants reassert: 1) Gatt is "across the surfaces" while Applicants' flow is tangential; 2) Gatt is many directions; Applicant's flow is tangential; 3) Gatt is not uniformly cooling; Applicants is; 4) Gatt blows "for evenly distributing the gas across the surface of the wafers" while Applicants call for "a slewing flow of the cooling gas in a tangential direction of the circular space.;" and 5) Gatt is spiral and Applicants are in a "longitudinal direction."

To this, Applicants urge that no combination of references discusses: "the cooling-gas introducing unit is a plurality of cooling-gas introducing pipes arranged at intervals in a circumferential direction of the circular space and extending in the height direction, the plurality of cooling-gas pipes having different lengths in the height direction."

With respect to claim 8, the Examiner states "Gat discloses the applicants primary inventive concept, but does not describe the blowing holes as having a porous member. The applicant discloses in the specification . . . that the function of the porous member is to reduce the flow rate of the cooling gas blown out of the holes. . . . Kato teaches the use of valves (16) connected to individual air flow channels for the purpose of controlling the flow rate of cooling gas. It would have been obvious at the time the invention was made to a persona having ordinary skill in the art to incorporate the valves of Kato into the invention of Gat . . . for the purpose of controlling the flow therethrough since the valves of Kato serves as a functional equivalent to the applicants' porous member." Applicants must respectfully traverse. A valve is not a porous member as structurally recited and cannot provide a functional equivalency either. Kato's valves, per Figure 1-3, are directed into "heating space HS" and are not directed to wafers W. Thus, Kato's valves would be inoperable in Gat if provided outside the Gat's wafer chamber. For all the reasons that claim 5 is patentable, claim 8 is patentable and, moreover, the porous member structurally distinguishes.

Claim 16 is a new claim to recite the porous member as a "silica porous layer" not discussed by any of the art of record.

With respect to claims 10 and 15, Gatt teaches a wrapping around at col. 5, lines 42-45, "For instance, as shown in FIG. 1, chamber 12 includes a cooling conduit 16 wrapped around the

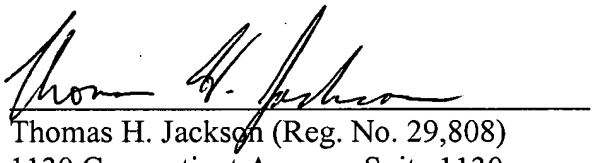
perimeter of the chamber. This is not "the processing container has a container-cooling unit provided therein having a spirally provided coolant passage in which a coolant flows." As Applicants state at paragraph [0031], "it is preferable that a coolant passage 11 for causing a coolant, such as cooling water of a room temperature, to flow therein is provide in the processing container 2 in terms of structural simplification and improvement of cooling property."

As for claims such as 11/10/5, 12/8 and 14/13/8, it is respectfully submitted that temperature rates and gas flow rates are not discussed by either Gat or Kato. Kato shows a temperature chart in Figure 5, but no values. Gat is primarily directed to "Rapid Thermal Processing Chamber for Processing Multiple Wafers" and heating the wafers, for example, using light energy, not cooling. While the Examiner suggests that these are matters of routine skill in the art, it is respectfully submitted that the applied references provide no guidance on the structural details of the claims on which they depend to achieve such rates.

In view of the foregoing amendments and remarks, it courteously is urged that all of the claims are allowable and that this application is in condition for allowance. Favorable action in this regard earnestly solicited.

A fee for a Request for Continued Examination is included with this Amendment. If any other fees under 37 C.F.R. §§1.16 or 1.17 are due in connection with this filing, please charge the fees to Deposit Account No. 02-4300; Order No. 033082 M 277. The undersigned respectfully requests the Examiner to contact him at the telephone number indicated below to discuss any remaining 112 issue. Applicants' counsel is agreeable to discussing alternative features or any issues raised during the review in order to reach agreement on allowable subject matter or place the claims in better form for appeal.

Respectfully submitted,
SMITH, GAMBRELL & RUSSELL, LLP

By: 

Thomas H. Jackson (Reg. No. 29,808)
1130 Connecticut Avenue, Suite 1130
Washington, D.C. 20036
Telephone: (202) 263-4300
Facsimile: (202) 263-4329

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